Physical Parameters and Fish Capture Data at Selected Nicola River Basin Sites During 1985

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ABSTRACT

Lauzier, R. 1987. Physical parameters and fish capture data at selected Nicola River Basin sites during 1985. Can. Data Rep. Fish. Aquat. Sci. 655: 24 p.

A sampling program for rearing juvenile salmonids was conducted in the Nicola River basin during 1985. The physical parameters and fish capture data from each sampling site are presented.

Physical parameters include water temperature (^{o}C), percent substrate composition, percent cover, sampling methodology, sample area, hydraulic unit, depths and velocities.

Fish capture data include Zippin population estimates for rearing salmonids, as well as total site catch for rearing salmonids, and other fish species.

RESUME

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En 1985, on a mené un programme d'échantillonnage en vue de l'élevage de salmonidés juvéniles dans le bassin de la rivière Nicola. On présente les paramètres physiques et les données sur les captures de poisson notés à chaque site d'échantillonnage.

Les paramètres physiques étudiés comprennent la température de l'eau (^{o}C), la composition du substrat (%) et la couverture (%); on présente aussi les méthodes d'échantillonnage utilisées, la superficie du site échantillonné, des données hydrauliques, les profondeurs de l'eau et les vitesses du courant.

Les données sur les captures de poisson incluent des estimations des effectifs de Zippin pour l'élevage de salmonidés ainsi que les captures totales par site pour l'élevage de salmonidés et d'autres espèces de poisson.

INTRODUCTION

A sampling program for rearing juvenile salmonids was conducted in the Nicola River basin between December 4, 1984 and November 8, 1985. The sampling was conducted at selected sites on a biweekly basis. The site locations are shown in Figure 1.

Table 1 lists the physical parameters that were measured at each sample site. Each row has the name of the river system for a sampling site, the date (day, month, year), the time (PST), the station number, the water temperature (°C), and estimate of % substrate composition at the sample site (categorized as boulder, cobble, gravel, sand, silt and hardpan), an estimate of % cover of the sample site (categorized as boulder, cobble, gravel, cutbank, log debris, overstream vegetation and instream vegetation), sampling methods (minnow trapping, electrofishing, beach seining, pole seining) sample area or time (time in hours for minnow trapping, area in square meters for all other methods), and hydraulic unit (glide, pool, riffle, sidechannel off-channel pond). If there is more than one letter for hydraulic unit (with the exception of PN for off-channel ponds), then more than one hydraulic unit was sampled. This is followed by velocities and depths. If there were 5 velocities and 5 depths listed, these were measured, If there were 1 or 2 velocities and depths, these were estimated. The depths were measured in centimetres and velocities in centimetres per second. Any blank spaces mean that the particular parameter was not measured or estimated.

Table 2 lists the biological information at each site. The first four columns list the river site, date, time, station number and water temperature, as in Table 1. The next 3 columns list the Zippin population estimates for chinook, coho and rainbow trout juveniles, respectively, for each sample area. The Zippin population estimates were calculated from electrofishing, beach seining and pole seining capture data, using a program adapted from Higgins (1985) on an Apple II Plus micro-computer. Where there are blanks in Zippin population estimates of species that have a listed total catch, there was insufficient data to calculate population estimates. Capture data from minnow trap sampling were not used in Zippin population estimates. The remaining columns under the heading Total Site Catch were the actual numbers of fish caught in the sample site. These numbers were categorized as chinook, coho, rainbow trout, mountain whitefish, Dolly Varden char, lamprey (ammocetes and transformed juveniles), cyprinids, suckers, and finally all other species combined (cottids, etc.). The actual number caught was the total of 3 passes, with the exception of minnow trapping. Each data line in Table 2 corresponds with a data line in Table 1.

ACKNOWLEDGMENTS

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to C. McPherson. Data were collected by E. Choromanski, J. Elvidge, O. Fleming, P. Higgins, C.D. Levings, S. MacIndoe, K. Magel, C. McPherson, J. Nathan, T. Suzuki, S. Swales and T. Wong.

REFERENCES

Higgins, P.J. 1985. An interactive computer program for population estimation using the Zippin method. Aquacult. Fish. Manage. 16(3): 287-295.

Table 1. Physical parameters measured at sampling stations in the Nicola River system during 1985, including water temperature (°C), estimate of % substrate composition (boulder, cobble, gravel, sand, silt, hard-pan); estimate of % cover (boulder, cobble, gravel, cut-bank, log debris, overstream vegetation, instream vegetation); sampling methodology (MT = minnow trapping, ES = electrofishing, PS = pole seining, BS = beach seining); SA/T = sample area or time (sample time in hours if minnow trapping, sample area in square metres for all other sampling methods); hydraulic unit (P = pool, S = sidechannel , G = glide, R = riffle PN = off-channel pond); velocity (centimetres/sec); depth (centimetres)

RIVER SYSTEM	DATE	TIME	STA	TEMP	SUBSTRATE						COVER							SMET	SA/T	HYU	VELOCITIES & DEPTHS									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
COLDWATER	031284	1500	1	0.0	00	00	70	20	10	00	00	00	00	10	70	00	00	MT	19	P										
COLDWATER	031284	1520	3	0.0	00	10	80	10	00	00	00	00	00	00	90	00	00	MT	21	P										
COLDWATER	031284	1640	4	0.0	00	10	80	10	00	00	00	00	00	00	90	00	00	MT	21	P										
COLDWATER	041284	0915	1	0.0	40	40	00	20	00	00	40	40	00	00	00	00	00	MT	23	P	30	150								
COLDWATER	041284	1220	6	0.0	10	30	50	00	10	00	00	00	00	30	70	00	00	MT	21	S	16	30	6	21	30	33	4	18		
COLDWATER	171284	0900	1	0.0	00	00	99	00	00	00	00	00	00	00	90	00	00	MT	24	P		90		78		42		66		
COLDWATER	171284	0900	1	0.0	00	00	70	00	30	00	00	00	00	20	20	00	00	MT	24	PS		51		76		99		87		
COLDWATER	171284	1030	4	0.0	00	10	80	10	00	00	00	00	00	20	80	00	00	MT	24	P		142		140		140		200		180
COLDWATER	171284	1100	5.1	5.0	00	00	00	00	00	00	00	00	00	00	00	00	00	MT	24	PN										
COLDWATER	171284	1345	6	0.0	10	30	50	00	10	00	00	00	00	30	70	00	00	MT	23	S										
COLDWATER	191284	1135	5.2	2.0	00	00	00	00	00	00	00	00	00	00	00	00	00	MT	1.5	PN										
COLDWATER	150185	1000	1	0.5	00	00	70	20	10	00	00	00	00	10	70	00	00	MT	24	SP										
COLDWATER	150185	1200	6	0.5	10	30	50	00	00	00	00	00	00	60	40	00	00	MT	23	S										
COLDWATER	150185	1320	7	0.5	80	20	00	00	00	00	80	20	00	00	00	00	00	MT	23	P										
NICOLA	160185	1415	28	0.5	80	20	00	00	00	00	80	20	00	00	00	00	00	MT	22	G										
NICOLA	160185	1500	29	2.5	00	00	20	20	40	00	00	00	00	00	20	30	00	MT	18	S										
NICOLA	160185	1530	31	7.5	00	00	10	10	80	00	00	00	00	20	30	20	00	MT	19	S										
NICOLA	160185	1610	22	0.5	50	30	20	00	00	00	50	30	00	00	10	00	00	MT	23	PG										
COLDWATER	170185	1100	5.3	1.0	00	00	00	20	80	00	00	00	00	00	00	00	00	MT	24	PN										
COLDWATER	290185	1000	1	0.0	00	00	70	20	10	00	00	00	00	30	30	00	00	MT	24	SP										
COLDWATER	290185	1130	3	0.0	00	10	80	10	00	00	00	10	00	30	40	00	00	MT	23	P										
COLDWATER	290185	1330	6	0.0	80	20	00	00	00	00	70	20	00	00	10	00	00	MT	22	P										
COLDWATER	290185	1330	6	0.0	10	30	50	00	10	00	00	00	00	60	40	00	00	MT	22	S										
COLDWATER	290185	1430	7	0.0	80	20	00	00	00	00	80	20	00	00	00	00	00	MT	22	P										
COLDWATER	290185	1520	8	0.0	80	20	00	00	00	00	80	20	00	00	00	00	00	MT	21	P										
NICOLA	300185	1430	31	8.0	00	00	00	10	90	00	00	00	00	20	30	20	00	MT	1.5	S										
NICOLA	300185	1555	31	8.0	00	00	00	10	90	00	00	00	00	20	30	20	00	MT	17	S										
NICOLA	140285	0815	20	0.5	20	30	40	00	10	00	20	30	00	30	00	00	00	MT	7.5	GP										
NICOLA	140285	1045	32	5.0	00	00	20	30	50	00	00	00	00	30	40	00	00	MT	24	PN										
NICOLA	140285	1130	31	8.0	00	00	10	10	80	00	00	00	00	20	30	20	00	MT	2	S										
NICOLA	140285	1140	30	4.0	00	00	00	20	80	00	00	00	00	10	30	20	30	MT	21	PN										
NICOLA	040385	1440	32	10.0														MT	2	S										
NICOLA	040385	1610	34	4.0	00	50	30	20	00	00								ES	460	G										

RIVER SYSTEM	DATE	TIME	STA	TEMP	S U B S T R A T E						C O V E R							SMET	SA/T	HYU	V E L O C I T I E S & D E P T H S									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
NICOLA	050385	0845	32	10.0														MT	24	S										
GUICHON CR	060385	0830	20	1.5														ES	40	P										
NICOLA	060385	0850	21	2.0														ES	400	G										
NICOLA	250385	1300	18	0.0														ES	20	G										
GUICHON CR	250385	1600	20	0.0														ES	200	P										
NICOLA	250385	1630	21	0.0														ES	150	G										
NICOLA	250385	1645	31	9.0														BS	400	SP										
NICOLA	260385	1600	28	4.0														ES	60	G										
NICOLA	260385	1640	31	0.0														MT	24	S										
NICOLA	270385	0950	22	5.5	10	90	00	00	00	00	00	00	00	00	00	00	00	ES	500	GRP										
NICOLA	270385	1450	38	0.0	40	60	00	00	00	00	00	00	00	00	00	00	00	ES	600	GP										
NICOLA	270385	1530	35	0.0														ES	200	GP										
NICOLA	280385	1000	36	7.0														ES	364	GP										
COLDWATER	090485	0920	3	2.5	30	30	40	00	00	00								ES	56	G										
COLDWATER	090485	1440	10	6.5	20	30	30	20	00	00	40	00	00	00	00	00	40	ES	20	PG										
NICOLA	110485	0745	22	7.5														MT	24	PG										
NICOLA	110485	0820	36	7.5														MT	24	G										
NICOLA	110485	0850	38	8.5														MT	24	G										
NICOLA	150485	1500	31	10.0														ES	20	S										
NICOLA	280485	0900	38	7.5	50	50	00	00	00	00	00	00	00	00	00	00	00	ES	150	G	66	60	42	66	18	57	44	57	50	45
NICOLA	290485	0930	36	6.0	40	40	00	20	00	00	00	00	00	00	00	00	00	ES	244	G	47	18	42	45	32	60	4	60	95	39
NICOLA	300485	0945	22	8.0	20	20	20	40	00	00	00	00	00	10	00	00	00	ES	53.2	G	68	51	13	39	18	30	21	30	26	30
NICOLA	300485	1250	34	9.0	50	40	00	10	00	00	15	00	00	00	00	00	00	ES	153	G	55	54	50	54	7	15	46	51	38	35
COLDWATER	010585	0930	10	5.0	20	30	30	20	00	00	10	00	00	00	00	00	00	ES	392	G	65	77	37	41	44	22	64	27	16	18
NICOLA	130585	1330	21	9.5														ES	80	G										
GUICHON CR	130585	1345	20	10.0	50	50	00	00	00	00	00	40	60	00	00	00	00	ES	140	G	46	18	58	24	63	15	78	33	84	33
COLDWATER	140585	1410	1	4.0	00	00	50	50	00	00	00	00	00	00	00	00	00	ES	250	G										
COLDWATER	140585	1530	10	9.0	10	30	50	10	00	00	00	00	00	00	00	00	00	ES	350	G	27	33	67	33	63	21	82	36	90	24
NICOLA	150585	0830	38	9.0	50	25	00	00	25	00	25	00	00	00	10	00	30	ES	126	G	16	30	12	36	27	49	39	45	10	30
NICOLA	150585	1025	36	9.5	30	30	00	00	40	00	10	00	00	00	10	20	30	ES	346	PG	23	30	60	33	11	16	3	9	4	12
SPIUS CR	150585	1300	25	9.5	5	40	10	5	40	00	5	15	00	30	5	30	00	ES	250	SG	23	39	12	21	0	21	12	24	15	30
NICOLA	160585	0930	27	7.0	10	20	50	20	00	00	10	25	00	00	00	00	05	ES	254	G	65	53	115	60	60	26	100	34	130	33
NICOLA	160585	1230	18	14.0	00	20	30	30	20	00	00	00	00	00	00	00	00	ES	225	G	67	38	42	19	115	42	35	14	94	30

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	SUBSTRATE BO	CO	GR	SA	SI	HP	COVER BO	CO	GR	CB	LD	OV	IV	SMET	SA/T	HYU	VELOCITIES & DEPTHS V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
NICOLA	270585	1420	18	13.0	00	00	50	00	50	00	00	00	00	00	00	20	30	PS	50	SP										
NICOLA	270585	1420	18	11.5	00	10	90	00	00	00	00	00	00	00	00	00	00	PS	15	G	80									
GUICHON CR	270585	1605	20	16.0	00	30	50	20	00	00	00	00	00	00	00	30	00	PS	30	GP	20	15	30	15						
NICOLA	270585	1630	21	14.0	00	00	00	10	90	00	00	00	00	00	00	40	00	PS	20	G										
NICOLA	270585	1900	38	12.0	30	30	00	00	40	00	30	00	00	00	30	00	00	PS	50	G	20	20	70	10						
NICOLA	270585	1925	40	12.0	40	50	00	00	00	00	00	00	00	00	00	30	00	PS	120	G										
NICOLA	270585	1945	98	12.0	00	20	30	00	50	00	00	00	00	00	00	00	70	PS	37	SP										
NICOLA	280585	0720	31															MT	24	S										
NICOLA	280585	0740	28															MT	24	S										
NICOLA	280585	1205	27	7.0	40	60	00	00	00	00	40	60	00	00	00	00	00	PS	35	G										
NICOLA	280585	1225	35	9.0	20	00	00	40	00	40	00	00	00	00	00	00	00	PS	150	G										
NICOLA	280585	1315	32	13.0														MT	24	PS										
NICOLA	280585	1315	32	13.0	00	00	00	10	90	00	00	00	00	00	00	30	40	PS	55	S	15		20							
NICOLA	280585	1345	34	10.0	00	40	60	00	00	00	00	00	00	00	00	00	30	PS	30	G										
NICOLA	280585	1405	29	11.5	00	00	20	30	50	00	00	00	00	00	00	40	60	PS	100	S	15		20							
NICOLA	280585	1430	30		00	00	00	20	80	00	00	00	00	00	00	00	70	PS	30	G			40							
NICOLA	280585	1545	18															MT	24	PN										
NICOLA	280585	1840	24	10.5	00	00	00	10	90	00	00	00	00	00	00	00	00	PS	50	PG	50		30							
NICOLA	280585	1840	24	10.0														PS	50	G	30									
COLDWATER	290585	0730	1															MT	24	G										
NICOLA	120685	0735	19	12.0	00	00	00	10	90	00	00	00	00	00	00	30	00	PS	105	G	10	30								
NICOLA	120685	0830	18	14.0	00	00	00	50	50	00	00	00	00	00	00	00	20	PS	20	G	10	10	30	30						
NICOLA	120685	0900	18	12.0	00	40	60	00	00	00	00	00	50	00	00	00	00	PS	40	G	10	10	30	30						
NICOLA	120685	0940	20	13.0	00	40	60	00	00	00	00	20	30	00	00	00	00	PS	20	G	50	20	50	20						
NICOLA	120685	1000	21	13.0	00	00	00	30	70	00	00	00	00	00	00	00	60	PS	20	G	5		10							
NICOLA	120685	1150	22	12.0	00	00	30	20	10	00	00	00	00	00	10	10	10	PS	10	G										
SPIUS CR	120685	1300	25	12.0	00	00	40	40	20	00	00	00	00	10	00	00	10	PS	10	P										
NICOLA	120685	1310	35	12.5	30	00	00	70	00	00	00	00	00	00	00	00	30	PS	10	G	10		30							
NICOLA	120685	1320	35	12.5	30	00	00	70	00	00	00	00	00	00	00	00	30	PS	15	G	10		30							
NICOLA	120685	1400	35	12.5	30	00	00	70	00	00								PS	5	G	5		15							
NICOLA	120685	1410	32	11.0	00	00	00	80	20	00	00	00	00	00	00	00	20	PS	10	S	2		5							
NICOLA	120685	1500	34	11.0	00	50	30	20	00	00	00	00	00	00	00	00	30	PS	10	G	5		15							
NICOLA	120685	1830	24	12.0	00	00	00	50	50	00	00	00	00	00	00	00	20	PS	45	G	10		30							

RIVER SYSTEM	DATE	TIME	STA	TEMP	SUBSTRATE						COVER							SMET	SA/T	HYU	VELOCITIES & DEPTHS									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
NICOLA	120685	1835	27	12.0	10	10	30	60	00	00	00	20	00	00	00	00	00	PS	40	G										
NICOLA	130685	0805	29	12.5	00	00	20	40	40	00	00	00	00	00	00	20	40	PS	15	S	5		10							
NOOAITCH	130685	0900	30	10.0	00	20	10	70	00	00	00	00	00	00	00	00	60	PS	20	G	10		20							
NICOLA	130685	1000	36	11.0	20	40	00	40	00	00	20	00	00	00	00	00	00	PS	20	RG	10		20							
NICOLA	130685	1030	38	12.0	30	00	00	70	00	00	30	00	00	00	00	00	60	PS	13	G	5		10							
NICOLA	130685	1150	40	12.0	40	00	00	60	00	00	40	00	00	00	00	00	00	PS	10	RG	20		30							
NICOLA	250685	2000	24		00	10	60	10	20	00	00	00	00	20	00	10	10	PS	125	P										
NICOLA	260685	0940	98	16.0	00	00	20	40	40	00	00	00	10	20	00	20	20	PS	15	SP										
NICOLA	260685	0940	98	16.0	00	00	00	50	50	00	00	00	00	10	00	30	30	PS	15	SP										
NICOLA	260685	1000	98	16.0	00	00	00	50	50	00	00	00	00	00	00	50	50	PS	10	PS										
NICOLA	260685	1030	98	16.0	00	00	00	50	50	00	00	00	00	00	00	50	50	PS	10	PS	20	44								
NICOLA	260685	1030	98	16.0	00	20	00	20	60	00	00	00	10	30	00	30	30	PS	10	S										
NICOLA	260685	1145	40	17.0	00	50	50	00	00	00	00	00	30	00	00	30	00	PS	15	GP	37	36								
NICOLA	260685	1215	36	17.0	80	00	30	00	00	00	40	00	00	00	00	00	40	PS	00	G	17	40								
NICOLA	260685	1245	50	14.0														PS	15	G	24	44								
NICOLA	260685	1335	32	14.0														PS	15	S										
NICOLA	260685	1355	34	19.0	00	50	50	00	00	00	00	10	00	00	00	00	50	PS	15	G										
NICOLA	260685	1455	29	15.0	00	00	00	50	50	00	00	00	00	00	50	00	00	PS	15	S										
NICOLA	270685	0830	38	15.0	50	00	20	30	00	00	20	20	10	00	00	00	50	PS	24	GP	66	48	18	36	23	24				
NICOLA	270685	0900	36	15.0	50	00	20	30	00	00	10	10	00	00	00	00	50	PS	20	G	15	0	20	20						
NICOLA	270685	0930	33	15.5	30	20	30	20	00	00	00	50	20	00	00	00	30	PS	40	G	55	30	46	33	36	46	36	27		
NICOLA	270685	0940	35	15.0	30	30	30	00	00	00	10	10	10	00	00	00	30	PS	52	G	55	38	34	32	30	33	25	33	20	46
NICOLA	270685	1040	31	16.0	00	30	00	50	20	00	00	10	50	00	10	00	10	PS	18	S										
NICOLA	270685	1200	25	15.0														PS	20	G	15	47	15	36						
NICOLA	270685	1225	27	15.0	00	50	00	50	00	00								PS	20	G	37	27	12	39	27	45				
NICOLA	270685	1250	22	17.0														PS	56	G	35	39	60	33	30	30				
GUICHON CR	270685	1405	20	17.0														PS	24	G	78	28	20	10	8	36	50	35	52	40
NICOLA	270685	1500	21	17.0														PS	20	G	15	60	25	48						
NICOLA	280685	1056	18		50	50	00	00	00	00								PS	50	G										
COLDWATER	020785	0845	1	8.0	00	00	60	30	10	00	00	00	00	20	20	20	00	ES	11	GP										
COLDWATER	020785	1020	10	12.0	20	30	30	20	00	00	20	00	00	00	00	00	00	ES	120	G	10	20	30	40						
VOGHT CR	020785	1045	13	14.0	20	40	40	00	00	00	20	00	00	00	00	30	00	ES	150	G	10	20	20	30						
NICOLA	030785	0750	18	17.5	10	40	40	10	00	00	10	00	00	00	00	00	00	ES	130	G	5	1	20	40						

RIVER SYSTEM	DATE	TIME	STA	TEMP	S U B S T R A T E						C O V E R							SMET	SA/T	HYU	V E L O C I T I E S & D E P T H S									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
GUICHON CR	030785	0920	20	15.5	40	40	20	00	00	00	30	00	00	00	00	00	00	ES	20	P	5	10	20	30						
GUICHON CR	030785	1030	20	18.0	10	30	50	10	00	00	10	00	00	00	30	00	00	ES	126	P	5	10	10	80						
GUICHON CR	030785	1100	20	17.5	20	40	20	20	00	00	20	00	00	00	20	30	00	ES	40	GP	10	10	30	30						
NICOLA	030785	1150	27	18.0	20	20	30	30	00	00	20	00	00	00	00	00	00	ES	147	GP	2	10	20	30						
SPIUS CR	030785	1300	25	19.0	10	40	30	20	00	00	10	00	00	20	10	30	00	ES	168	GP	5	10	20	30						
NICOLA	030785	1800	24	22.0	30	50	20	00	00	00	40	00	00	00	00	00	00	ES	42	P	2	10	5	30						
NICOLA	030785	1855	22	20.0	00	00	20	20	60	00	00	00	00	00	00	80	00	ES	30	G	5	10	10	30						
SPIUS CR	040785	0715	SC1	13.0	30	20	30	20	00	00	30	00	00	00	00	20	00	ES	96	GP	5	10	30	50						
NICOLA	040785	0845	40	19.0	60	30	10	00	00	00	60	00	00	00	00	00	00	ES	123	GP	2	20	30	60						
NICOLA	040785	0920	38	19.0	75	20	00	05	00	00	50	00	00	00	00	10	00	ES	78	GP	10	30	30	60						
NICOLA	040785	1005	36	18.0	40	20	10	00	30	00	20	00	00	00	00	00	20	ES	63	GP	5	20	20	40						
NICOLA	090785	0945	18	20.0	50	50	00	00	00	00	20	30	00	00	00	00	00	ES	19	G										
NICOLA	090785	1000	18	20.0	00	00	85	00	05	10	00	00	40	00	40	00	00	ES	54	P										
NICOLA	090785	1540	22	22.0	10	30	60	00	00	00	00	00	00	00	30	00	00	ES	29.5	PG	94	70	25	11	60	37	44	14	46	31
GUICHON CR	090785	1730	20	20.0	00	20	80	00	00	00	00	10	50	10	00	00	00	ES	44.4	GP	50	13	25	18	27	24	22	27	24	18
NICOLA	090785	1835	21	19.0	00	10	00	90	00	00	00	10	00	00	30	10	00	ES	12	GP	0	41	0	23	14	27	21	21	27	11
NICOLA	110785	0850	27	17.0	20	35	20	25	00	00	20	00	00	00	00	00	00	ES	148	G	3	48	3	42	13	39	7	9	11	8
NICOLA	170785	0645	33	16.0	30	50	20	00	00	00	30	00	00	00	00	00	00	ES	106	G	32	18	31	27	37	27	20	24	29	21
NICOLA	170785	0820	36	17.0	65	35	00	00	00	00	65	00	00	00	00	00	00	ES	44	GP	6	18	12	33	15	21	14	18	35	21
NICOLA	170785	0915	38	18.5	75	20	05	01	00	00	40	00	00	00	00	00	00	ES	36	GP	31	27	7	27	12	41				
NICOLA	170785	1015	40	19.5	40	40	20	00	00	00	40	00	00	00	00	00	00	ES	57	GP	18	27	16	33	31	24	11	21	17	18
NICOLA	300785	0600	32	11.0	00	00	00	20	80	00	00	00	00	00	10	30	00	ES	48	SP	0	24	0	33						
NICOLA	300785	0640	34	17.0	10	60	30	00	00	00	10	00	00	00	00	00	00	ES	19	G	16	24	10	13	13	13	27	24	27	30
NICOLA	300785	0945	40	21.0														ES	46	GP	4	24	0	12	42	12	9	35	24	24
NICOLA	300785	1050	38	21.0														ES	36	GP	2	30	1	27	14	27	9	33	28	42
SPIUS CR	300785	1425	25	25.0	10	50	40	00	00	00								ES	62.5	GP	0	42	0	18	1	21	5	27	0	12
NICOLA	300785	1530	27	24.0	00	60	40	10	00	00								ES	36	PG	0	33	16	36	8	18	40	15	0	10
NICOLA	300785	1910	22	24.0	10	60	30	00	00	00								ES	31.5	G	25	16	0	10	22	24	27	24	7	10
NICOLA	310785	0630	33	17.0	30	50	20	00	00	00	30	30	00	00	00	00	00	ES	53.7	G	16	18	18	18	10	15	7	15	3	6
NICOLA	310785	0745	35	17.5	70	30	00	00	00	00								ES	60	G	0	15	7	15	7	6	4	27	12	9
NICOLA	310785	0930	36	21.0	80	20	00	00	00	00								ES	64	G	45	30	7	21	37	33	0	18	5	15
COLDWATER	310785	1430	1	14.0	00	00	20	80	00	00								ES	22.4	PG	3	30	3	60	7	42	4	10	3	42
COLDWATER	310785	1630	10	18.5	50	30	20	00	00	00								ES	69	GP	5	24	9	30	21	35	19	30	36	30

RIVER SYSTEM	DATE	TIME	STA	TEMP	SUBSTRATE						COVER							SMET	SA/T	HYU	VELOCITIES & DEPTHS									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
GUICHON CR	010885	0715	20	12.5	00	50	50	00	00	00								ES	38.2	GP	6	12	8	18	4	10	3	15	16	15
NICOLA	010885	0800	21	17.0	00	00	00	50	50	00								ES	42.8	GP	1	45	5	30	20	27	27	24	23	18
GUICHON CR	010885	0900	20	15.0	00	00	00	50	50	00	00	10	00	00	50	30	00	ES	56	P	9	18	3	27	4	69	5	48	4	25
GUICHON CR	010885	1000	20	16.0	00	40	50	10	00	00								ES	19.6	GP	4	25	6	15	11	13	13	8	6	15
NICOLA	010885	1110	24	18.0	00	50	50	00	00	00								ES	29.0	GP	9	12	7	16	10	24	16	15	46	33
NICOLA	010885	1200	18	18.5	00	50	50	00	00	00								ES	76.5	G	26	17	10	12	3	6	17	16	15	14
NICOLA	010885	1230	18	18.0	100	00	00	00	00	00								ES	56	G	11	54	17	40	4	36	5	55	6	60
GUICHON CR	010885	1300	20	16.0	00	40	50	10	00	00	00	50	00	00	20	00	00	ES	19.6	GP	4	25	6	15	15	13	13	8	6	15
COLDWATER	130885	0750	8	12.0	20	50	20	10	00	00	20	00	00	10	00	20	00	ES	50	GP	-3	75	-4	45	5	30	3	28	3	45
COLDWATER	130885	0855	12	14.0	00	20	30	50	00	00	00	00	00	00	30	10	00	ES	70	GP	5	30	9	33	6	24	7	66	4	42
NICOLA	130885	1105	18	17.0	00	80	00	20	00	00								ES	51	G	2	21	8	9	28	36	32	21	30	21
GUICHON CR	130885	1255	20	19.0	00	30	50	00	20	00								ES	30	GP	0	21	0	33	5	57				
GUICHON CR	130885	1315	20	18.0	00	50	00	50	00	00	00	00	00	20	40	10	00	ES	43.8	P	11	66	15	36	14	32	20	60	20	54
NICOLA	130885	1845	22	19.0	20	30	20	30	00	00	20	10	00	00	20	00	00	ES	51.6	G	-3	45	25	51	47	21	24	30	42	33
NICOLA	140885	0700	33	13.0	20	50	30	00	00	00	20	40	00	00	00	00	00	ES	82	GP	9	9	5	9	22	12	11	12	18	12
NICOLA	140885	0840	40	17.0	60	35	05	00	00	00	50	20	00	00	00	00	00	ES	36	GP	8	39	23	39	17	18	15	27	12	21
NICOLA	140885	0950	38	17.0	50	20	20	10	00	00	40	10	00	00	00	00	00	ES	36	PG	4	21	11	30	3	33	1	27	3	21
NICOLA	140885	1100	36	18.0	50	30	10	10	00	00	40	20	00	00	00	00	00	ES	50	PG	7	18	9	21	7	24	13	36	11	24
SPIUS CR	140885	1845	25	21.0	30	30	20	20	00	00	20	20	00	00	00	00	00	ES	40	P	0	39	0	33	1	30	2	39	2	30
NICOLA	150885	0645	24	14.0	00	70	30	00	00	00	00	40	10	00	00	20	00	ES	75	GP	38	33	36	33	36	33	24	21	23	18
COLDWATER	150885	0840	10	12.0	20	30	30	20	00	00	20	20	00	00	10	00	00	ES	60	PG	2	45	6	60	-4	45	9	36	6	24
COLDWATER	150885	1010	1	10.0	10	10	60	20	00	00	00	00	00	20	40	00	00	ES	85	GP	17	60	4	48	5	60	10	75	6	60
NICOLA	260885	1530	21	19.0	10	40	10	10	30	00	10	40	00	00	20	00	00	ES	120	GP	5	20	20	50						
GUICHON CR	260885	1545	20	18.0	10	40	20	30	00	00	10	20	00	00	40	00	00	ES	60	P	2	30	15	50						
NICOLA	270885	0800	40	14.0	60	40	00	00	00	00	50	20	00	00	00	00	00	ES	42	GP	1	30	40	70						
NICOLA	270885	0905	38	15.0	40	30	10	20	00	00	30	10	00	00	00	00	00	ES	62	GP	2	10	10	30						
NICOLA	270885	1015	36	16.0	30	40	20	10	00	00	20	20	00	00	00	00	00	ES	36	GP	2	10	15	30						
NICOLA	270885	1150	33	18.0	20	60	10	10	00	00	20	30	00	00	00	00	00	ES	80	GP	2	10	10	20						
SPIUS CR	270885	1745	25	20.0	20	50	10	20	00	00	20	30	00	00	00	00	00	ES	30	SP	2	30	2	30	2	18	3	36	0	27
NICOLA	270885	1845	27	19.0	60	10	00	30	00	00	60	00	00	00	00	00	00	ES	30	GP	-4	54	-7	45	-5	48	-5	54	-4	30
COLDWATER	280885	0920	12	15.0	10	30	10	40	00	00	00	00	00	10	50	00	00	ES	26	GP	4	24	8	45	1	45	-2	33	2	60
COLDWATER	280885	1010	8	16.0	10	30	40	20	00	00	10	10	00	00	20	00	20	ES	32.5	GP	8	27	7	44	3	50	2	33	2	30
COLDWATER	280885	1215	1	11.0	20	10	40	30	00	00	10	00	00	10	20	00	00	ES	60	GP	4	50	9	70	3	28	10	60	1	60

RIVER SYSTEM	DATE	TIME	STA	TEMP	SUBSTRATE						COVER							SMET	SA/T	HYU	VELOCITIES & DEPTHS									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
COLDWATER	280885	1410	10	19.0	20	30	20	30	00	00	20	20	00	00	00	00	00	ES	30	GP	-4	40	-2	36	1	18	15	22	10	30
NICOLA	290885	0715	18	13.0	05	45	30	20	00	00	05	45	00	00	00	00	00	ES	63	RG	26	15	35	36	34	33	42	30	31	24
GUICHON CR	290885	0840	20	11.0	00	20	10	60	10	00	00	00	00	10	60	20	00	PS	40	P										
NICOLA	290885	0940	22	14.0	20	30	20	10	20	00	20	20	00	00	10	00	00	ES	45	G	25	27	19	21	14	9	8	27	29	24
NICOLA	290885	1145	24	16.0	10	80	10	00	00	00	00	40	00	00	00	00	00	ES	50	GP	27	18	24	18	37	18	58	24	55	24
NICOLA	100985	0730	34	10.0	10	60	30	00	00	00	05	50	10	00	00	00	00	ES	31.5	GR	16	27	3	21	5	15	7	18	19	12
NICOLA	100985	0800	32	9.0														ES	36	PS										
NICOLA	100985	0930	40	10.5														ES	52	GP	5	24	16	18	5	12	11	12	5	18
NICOLA	100985	1005	36	12.0	80	20	00	00	00	00								ES	17.7	GP	0	15	23	30	2	18	8	15	15	18
NICOLA	100985	1230	22	14.0	10	60	30	00	00	00								ES	25.2	GP	16	24	7	15	44	18	10	12	15	15
GUICHON CR	100985	1300	20	14.0	00	50	40	10	00	00								ES	18	G	48	30	36	27	28	18	26	27	16	18
GUICHON CR	100985	1330	20	13.0	00	00	00	50	50	00	00	00	00	00	50	30	00	PS	28	RP	9	24	10	37	11	41	15	60	6	45
GUICHON CR	100985	1500	20	15.0	00	50	50	00	00	00	00	50	00	00	00	00	00	ES	48	GP	32	18	12	27	2	25	32	22	32	19
NICOLA	100985	1600	21	15.0	00	00	10	90	00	00								ES	10	GP										
NICOLA	100985	1830	24	14.0														PS	40	SP	12	20								
NICOLA	110985	0730	38	11.0	50	50	00	00	00	00								ES	22.5	PG	3	15	17	27	0	18	6	18	6	30
COLDWATER	110985	1215	1	7.0	00	00	20	80	00	00								ES	93	GPS	0	56	0	33	4	36	1	21	20	39
COLDWATER	110985	1400	10	11.0	50	30	20	00	00	00								ES	36.3	GP	8	18	12	24	26	33	31	26	5	24
NICOLA	110985	1800	33	12.0	20	80	00	00	00	00								ES	20	GP										
NICOLA	120985	0645	27	9.0	10	70	00	20	00	00								ES	43.6	GP	0	32	5	30	12	22	14	17	12	27
NICOLA	240985	0820	40	9.0	60	40	00	00	00	00	20	20	20	00	00	00	00	ES	60	GP	12	25	15	17	12	15	6	16	2	24
NICOLA	240985	0930	38	10.0	70	15	05	00	00	00	30	00	00	00	00	00	00	ES	55	GP	5	18	22	26	11	33	1	22	5	27
NICOLA	240985	1250	22	12.0	00	30	40	30	00	00	00	10	00	00	10	00	00	ES	25	R	45	15	25	28	10	27	18	33	9	27
NICOLA	240985	1345	34	13.0	20	60	20	00	00	00	10	20	00	00	00	00	00	ES	63	PR	10	34	5	26	11	23	22	27	9	27
NICOLA	240985	1500	33	12.0	10	80	10	00	00	00	05	20	00	00	00	00	00	ES	45	GP	8	21	14	17	24	15	9	15	25	15
NICOLA	240985	1540	35	12.0	40	50	10	00	00	00	15	10	00	00	00	00	00	ES	70	PG	15	21	17	20	17	20	20	15	8	21
NICOLA	250985	0845	36	9.0	70	25	05	00	00	00	30	05	00	00	00	00	00	ES	80	PG	3	24	12	30	15	35	10	24	6	15
NICOLA	250985	1015	27	9.0	10	60	20	10	00	00	05	20	00	00	00	00	00	ES	54	PR	7	15	15	24	11	24	13	25	25	27
SPIUS CR	250985	1135	25	7.0	00	60	20	20	00	00	00	20	00	00	00	00	00	ES	48	SP	1	33	0	33	2	36	7	27	3	25
NICOLA	250985	1250	21	12.0	00	50	20	30	00	00	00	20	00	00	10	00	00	ES	46.5	PGS	15	21	11	22	22	15	12	15	25	15
GUICHON CR	250985	1320	20	13.0	10	60	30	00	00	00	05	15	00	00	00	00	00	ES	48	PG	22	14	10	21	1	18	11	18	17	16
GUICHON CR	250985	1400	20	13.0	40	30	00	30	00	00	20	00	00	00	25	00	00	PS	60	P	5	33	5	30	6	18	9	30	4	42
COLDWATER	260985	0930	10	7.0	30	40	30	00	00	00	10	15	00	00	00	00	00	ES	45	RP	2	18	8	27	7	21	10	20	20	24

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	SUBSTRATE BO	CO	GR	SA	SI	HP	COVER BO	CO	GR	CB	LD	OV	IV	SMET	SA/T	HYU	VELOCITIES & DEPTHS V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
COLDWATER	260985	1115	1	7.0	00	00	50	50	00	00	00	00	00	20	20	00	00	ES	46	PSG	4	26	6	51	11	37	21	45	9	27
NICOLA	081085	0825	40	3.5	70	30	00	00	00	00	30	10	00	00	00	00	00	ES	86	PG	19	24	17	21	6	18	15	30	3	15
NICOLA	081085	0935	38	4.0	60	30	10	00	00	00	30	10	00	00	00	00	00	ES	60	PG	6	32	26	20	7	21	3	50	14	24
NICOLA	081085	1045	36	4.5	30	60	10	00	00	00	15	20	00	00	00	00	10	ES	97	G	5	39	27	45	23	39	18	30	10	27
NICOLA	081085	1255	33	6.0	10	70	20	00	00	00	05	15	00	00	00	00	00	ES	50	G	15	19	5	15	15	15	13	18	18	9
NICOLA	081085	1415	27	7.0	10	50	20	20	00	00	00	20	00	00	00	00	00	ES	40	G	3	30	2	15	12	36	10	15	11	12
NICOLA	091085	0900	35	5.5	70	30	00	00	00	00	30	00	00	00	00	00	00	ES	57	PG	4	24	3	27	15	36	12	30	3	28
NICOLA	091085	1025	25	5.0	20	70	00	10	00	00	05	20	00	00	00	00	00	ES	61.5	PG	-1	36	-2	33	-2	20	-2	18	-3	36
NICOLA	091085	1220	22	8.0	10	70	00	20	00	00	00	25	00	00	05	00	00	ES	20	PG	53	18	19	15	60	30	10	24	27	30
NICOLA	091085	1315	21	8.0	00	50	20	30	00	00	00	10	00	00	10	00	00	ES	58	PG	01	26	11	17	15	20	19	19	5	24
GUICHON CR	091085	1400	20	8.0	00	80	20	00	00	00	00	10	00	00	00	00	00	ES	40	P	11	18	13	15	9	14	15	15	7	18
GUICHON CR	091085	1500	20	8.0	00	70	00	30	00	00	00	00	00	15	00	00	00	PS	60	P	5	30	3	33	4	20	4	60	-1	27
NICOLA	101085	1205	24	7.0	00	50	50	00	00	00	00	05	00	00	05	00	00	PS	100	P	10	18	9	20	24	27	32	27	28	36
NICOLA	101085	1340	18	8.5	00	00	30	70	00	00	00	00	00	00	20	00	00	PS	44	G	10	15	11	33	6	45	-3	45	-4	50
COLDWATER	111085	1000	8	6.5	00	40	30	30	00	00	00	10	00	00	20	00	00	ES	40		8	30	10	40	12	45	10	40	6	60
COLDWATER	111085	1150	1	4.5	40	00	60	00	00	00	40	00	00	00	20	00	00	ES	30	G	27	56	30	60	4	52	18	45	19	57
COLDWATER	111085	1305	10	9.0	30	50	20	00	00	00	10	20	00	00	00	00	00	ES	40	PG	-2	36	-1	27	-11	45	1	42	11	20
NICOLA	221085	0930	40	7.0	60	30	10	00	00	00	25	10	00	00	00	00	00	ES	61.5	PG	7	36	42	39	27	36	34	20	37	20
NICOLA	221085	1030	38	7.0	50	35	00	15	00	00	30	10	00	00	00	00	10	ES	58	PG	8	60	27	54	7	30	50	45	4	30
NICOLA	221085	1350	36	8.0	40	50	00	10	00	00	20	10	00	00	00	00	20	ES	64.5	G	18	54	21	48	33	48	21	18	17	30
NICOLA	231085	1000	33	5.0	20	75	05	00	00	00	10	10	00	00	00	00	20	ES	60	G	28	24	27	30	10	15	25	30	20	24
NICOLA	231085	1120	35	5.5	50	40	10	00	00	00	25	10	00	00	00	00	00	ES	57	G	13	18	23	30	12	33	18	41	27	31
NICOLA	231085	1300	27	6.0	10	40	30	20	00	00	05	15	00	00	00	00	00	ES	54	G	15	18	28	45	30	30	21	15	37	27
SPIUS CR	231085	1400	25	5.0	30	50	00	20	00	00	10	20	00	00	00	00	05	ES	35	G	-2	21	-4	51	-6	54	4	51	7	56
NICOLA	241085	1015	18	5.0	00	10	50	40	00	00	00	00	10	00	05	00	00	ES	50	G	3	30	20	45	25	30	27	15	43	15
NICOLA	241085	1140	21	6.0	00	30	30	40	00	00	00	10	00	00	10	00	00	ES	50	PG	25	18	16	12	37	27	25	13	9	28
GUICHON CR	241085	1200	20	7.5	00	80	20	00	00	00	00	10	00	00	00	00	90	ES	40	P	4	18	3	19	14	10	2	13	2	16
GUICHON CR	241085	1300	20	7.0	30	40	00	30	00	00	15	10	00	15	00	00	00	PS	60	P	6	27	2	36	4	30	3	55	1	45
NICOLA	241085	1325	22	7.0	10	30	10	50	00	00	00	10	00	00	00	00	20	ES	50	G	-8	45	3	24	22	30	23	18	55	30
NICOLA	241085	1420	24	6.5	00	70	25	05	00	00	00	20	00	00	00	00	05	ES	67	G	12	15	27	24	28	27	29	24	37	30
COLDWATER	251085	1135	1	1.0	20	00	50	30	00	00	05	00	00	00	10	05	00	ES	66.6	G	9	32	12	66	9	36	52	9	41	20
COLDWATER	251085	1315	10	3.5	10	20	50	20	00	00	05	10	00	00	00	00	00	ES	62.5	G	5	24	26	36	37	21	42	30	35	15
COLDWATER	251085	1400	8	5.0	10	50	20	20	00	00	00	15	00	00	15	00	00	ES	67	G	17	60	28	60	10	15	25	30	19	15

RIVER SYSTEM	DATE	TIME	STA	TEMP	S U B S T R A T E						C O V E R							SMET	SA/T	HYU	V E L O C I T I E S & D E P T H S									
	DAMOYR	PST	NO		BO	CO	GR	SA	SI	HP	BO	CO	GR	CB	LD	OV	IV				V1	D1	V2	D2	V3	D3	V4	D4	V5	D5
NICOLA	041185	1515	24	5.5	00	80	10	10	00	00	00	20	00	10	00	00	00	ES	66	SG	15	15	30	27	57	30	30	21	65	40
NICOLA	051185	1120	40	4.0	80	10	10	00	00	00	50	05	00	00	00	00	05	ES	90	GP	10	36	8	24	17	15	4	30	52	31
NICOLA	051185	1240	38	4.0	90	10	00	00	00	00	30	05	00	00	00	00	15	ES	51	GP	5	41	7	36	30	55	18	45	7	45
NICOLA	051185	1400	36	3.5	50	25	00	00	25	00	30	10	00	00	00	00	20	ES	42	GP	2	36	3	48	9	21	37	57	7	48
NICOLA	061185	1040	33	2.0	20	70	10	00	00	00	10	25	00	00	00	00	15	ES	79	PG	29	26	20	19	41	33	16	21	28	30
NICOLA	061185	1200	35	2.5	35	60	00	05	00	00	10	30	00	00	00	00	00	ES	54	G	44	30	19	18	3	33	74	33	32	30
NICOLA	061185	1325	27	4.0	05	70	10	15	00	00	05	15	00	00	00	00	00	ES	75.3	PG	9	32	11	19	27	43	30	24	33	21
NICOLA	061185	1430	25	4.0	80	00	00	20	00	00	40	00	00	00	00	00	05	ES	40	PG	-3	50	-1	33	-4	48	-1	17	-3	42
COLDWATER	071185	1200	1	2.0	05	00	65	20	10	00	02	00	00	00	15	05	00	ES	70	G	-9	75	31	44	7	36	44	24	8	15
COLDWATER	071185	1350	10	3.0	20	00	50	30	00	00	05	00	00	00	05	00	00	ES	50	PG	3	69	12	22	28	49	45	19	44	39
COLDWATER	071185	1450	8	3.0	00	60	20	20	00	00	00	15	00	00	15	00	00	ES	59	PG	33	24	40	39	16	36	27	63	8	69
NICOLA	081185	1050	18	3.0	00	20	60	00	20	00	00	05	05	05	00	00	05	ES	68	G	31	12	50	20	34	18	28	33	-3	72
NICOLA	081185	1215	21	4.0	00	30	30	40	00	00	00	10	00	00	20	00	10	ES	42	PG	34	21	26	43	14	21	22	34	3	24
GUICHON CR	081185	1300	20	4.0	03	90	07	00	00	00	01	50	00	00	00	00	00	ES	36	PG	24	15	9	19	14	18	17	12	11	22
GUICHON CR	081185	1400	20	4.0	20	20	00	60	00	00	10	00	00	15	00	00	40	ES	40	P	5	33	3	22	7	36	11	54	5	54
NICOLA	081185	1450	22	3.5	00	30	00	70	00	00	00	05	00	00	10	00	10	ES	52	G	-1	36	-11	45	1	36	11	10	41	33

Table 2. Fish catch using electrofishing, beach seining, pole seining, and minnow trapping at sample stations in the Nicola River system during 1985. Population estimates are the results of multiple pass Zippin population estimate calculations. Total site catch is the total catch of 3 passes at the site from electrofishing, beach seining and pole seining and the total of all traps when minnow trapping.

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N EST CH	CO	RBT	TOTAL SITE CATCH CH	CO	RBT	MWF	DV	LMP	CYP	SU	OTH
COLDWATER	031284	1500	1	0.0				1	2			2				
COLDWATER	031284	1520	3	0.0				5	8	1						
COLDWATER	031284	1640	4	0.0				5	2							
COLDWATER	041284	0915	1	0.0				1				2				
COLDWATER	041284	1220	6	0.0				2		4						
COLDWATER	171284	0900	1	0.0					2							
COLDWATER	171284	0900	1	0.0				2	13							
COLDWATER	171284	1030	4	0.0				2								
COLDWATER	171284	1100	5.1	5.0												
COLDWATER	171284	1345	6	0.0				2								
COLDWATER	191284	1135	5.2	2.0					32			1				
COLDWATER	150185	1000	1	0.5					5	1		6				
COLDWATER	150185	1200	6	0.5				1		5		4				
COLDWATER	150185	1320	7	0.5					2	10						
NICOLA	160185	1415	28	0.5						7						
NICOLA	160185	1500	29	2.5				1		5						2
NICOLA	160185	1530	31	7.5				53	125	18						1
NICOLA	160185	1610	22	0.5						1						
COLDWATER	170185	1100	5.3	1.0				4	106							
COLDWATER	290185	1000	1	0.0					20			1				
COLDWATER	290185	1130	3	0.0				4	10			9				
COLDWATER	290185	1330	6	0.0						6						
COLDWATER	290185	1330	6	0.0												
COLDWATER	290185	1430	7	0.0						1						
COLDWATER	290185	1520	8	0.0						5						
NICOLA	300185	1430	31	8.0				23	260	13						25
NICOLA	300185	1555	31	8.0				38	363	140						11
NICOLA	140285	0815	20	0.5					3	13						
NICOLA	140285	1045	32	5.0				2	90	8					1	
NICOLA	140285	1130	31	8.0				19	276	30						7
NICOLA	140285	1140	30	4.0					7	4						
NICOLA	040385	1440	32	10.0				9	133	13						
NICOLA	040385	1610	34	4.0					3	12					6	2

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N EST CH	CO	RBT	TOTAL CH	CO	RBT	SITE MWF	DV	CATCH LMP	CYP	SU	OTH
NICOLA	050385	0845	32	10.0				5	134	24						5
GUICHON CR	060385	0830	20	1.5						47						
NICOLA	060385	0850	21	2.0						3			15			
NICOLA	250385	1300	18	0.0				3	3	12						
GUICHON CR	250385	1600	20	0.0						73						
NICOLA	250385	1630	21	0.0						3						
NICOLA	250385	1645	31	9.0			10		2	7					2	
NICOLA	260385	1600	28	4.0				3		25						
NICOLA	260385	1640	31	0.0	7	69	22	3	41	21						1
NICOLA	270385	0950	22	5.5						10			8	3	5	
NICOLA	270385	1450	38	5.0				20		24					2	
NICOLA	270385	1700	35	0.0						17					3	
NICOLA	280385	1000	36	7.0				20	0	65					5	
COLDWATER	090485	0920	3	2.5				1		9						
COLDWATER	090485	1440	10	6.5			18	1		18						1
NICOLA	110485	0745	22	7.5			4			3	1				1	
NICOLA	110485	0820	36	7.5						18					1	
NICOLA	110485	0850	38	8.5			11			3					6	
NICOLA	150485	1500	31	10.0		4	7	1	4	7					1	
NICOLA	280485	0900	38	7.5	12			10		34				2	1	
NICOLA	290485	0930	36	6.0	4		24	3		20		1	5			
NICOLA	300485	0945	22	8.0			8			7			9		3	
NICOLA	300485	1250	34	9.0						4			22	1		
COLDWATER	010585	0930	10	5.0					1	3					1	1
GUICHON CR	130585	1300	20	10.0			6	6		6				12	1	
NICOLA	130585	1330	21	9.5									1	6	1	
COLDWATER	140585	1410	1	4.0												
COLDWATER	140585	1530	10	9.0						1						
NICOLA	150585	0830	38	9.0	59	100	17	20		26			19	8		
NICOLA	150585	1025	36	9.5	65			62		1				5	6	
SPIUS CR	150585	1300	25	9.5	78		43	51		42			20	2		
NICOLA	160585	0900	27	7.0	62		12	55	1	8			6	42		
NICOLA	160585	1230	18	14.0	80			69		3			1	118		

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N CH	POP'N CO	POP'N RBT	EST CH	TOTAL SITE CATCH CO	RBT	MWF	DV	LMP	CYP	SU	OTH
NICOLA	270585	1420	18	13.0	64			61			1			51	18	
NICOLA	270585	1420	18	11.0	74		2	73		2				18		
GUICHON CR	270585	1605	20	16.0	202			198	1		1			2	8	
NICOLA	270585	1630	21	14.0	216			180						33		
NICOLA	270585	1900	38	12.0				5		2						
NICOLA	270585	1925	40	12.0			12	3		10					5	
NICOLA	270585	1945	98	12.0				65							3	
NICOLA	280585	0720	31					1		16						
NICOLA	280585	0740	28					2		9						
NICOLA	280585	1205	27	7.0				12		2						1
NICOLA	280585	1225	35	9.0				84		8				16		
NICOLA	280585	1315	32	13.0					4	5					6	
NICOLA	280585	1315	32	13.0				128						8	3	
NICOLA	280585	1345	34	10.0				2		2					1	
NICOLA	280585	1405	29	11.0				136	2					6	15	
NICOLA	280585	1430	30		11			9		6					2	
NICOLA	280585	1545	18						3							
NICOLA	280585	1840	24	10.0	159			99		1				50		
NICOLA	280585	1840	24	10.0	158			100		1				50		
COLDWATER	290585	0730	1			13			9							
NICOLA	120685	0735	19	12.0	81			79	4						18	
NICOLA	120685	0830	18	12.0	36			35	1	1	1			8	4	
NICOLA	120685	0900	18	12.0	70			69			8			27		
NICOLA	120685	0940	20	13.0				1			2			2	1	
NICOLA	120685	1000	21	13.0	29			29						11	17	1
NICOLA	120685	1150	22	12.0	13			12						5		
SPIUS CR	120685	1300	25	12.0				1								
NICOLA	120685	1310	35	12.0	15			11						4		
NICOLA	120685	1330	35	12.0	18			15						8		
NICOLA	120685	1400	35	12.0	19			19			1			2		
NICOLA	120685	1430	32	11.0	59			58						10	8	
NICOLA	120685	1500	34	11.0	73			25						1		
NICOLA	120685	1830	24	12.0				98						27		

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N CH	EST CO	EST RBT	TOTAL SITE CATCH CH	CO	RBT	MWF	DV	LMP	CYP	SU	OTH
NICOLA	120685	1835	27	12.0												
NICOLA	130685	0805	29	12.0	112			95	1					154	98	
NICOLA	130685	0900	30	10.0	27			19						2	1	
NICOLA	130685	1000	36	11.0	16			15		1				9		
NICOLA	130685	1030	38	12.0				5						2		
NICOLA	130685	1150	40	12.0	12											
NICOLA	250685	2000	24					149	2		9			15	10	
NICOLA	260685	0940	98	16.0	8			7						4		
NICOLA	260685	0940	98	16.0	28			18			15			20	350	
NICOLA	260685	1000	98	16.0				18						20	35	
NICOLA	260685	1030	98	16.0	8			7			37			36	32	
NICOLA	260685	1030	98	16.0				18		1				36	32	
NICOLA	260685	1145	40	17.0	5			3								
NICOLA	260685	1215	36	17.0										4	1	
NICOLA	260685	1245	50	14.0	9			8								
NICOLA	260685	1335	32	14.0	30	5		16	5					1		
NICOLA	260685	1355	34	19.0				7	31					160		
NICOLA	260685	1455	29	15.0	4			3			2			6	31	
NICOLA	270685	0830	38	15.0				1								
NICOLA	270685	0900	36	16.0				2			2					
NICOLA	270685	0930	33	15.0						1	2					
NICOLA	270685	0940	35	15.0							2					
NICOLA	270685	1040	31	16.0	40			33			1					
NICOLA	270685	1200	25	15.0												
NICOLA	270685	1225	27	15.0						1						
NICOLA	270685	1250	22	17.0				68	23	11						
GUICHON CR	270685	1405	20	17.0	138			135			2			9	8	
NICOLA	270685	1500	21	17.0				16								
NICOLA	280685	1056	18		2			2			8				2	
COLDWATER	020785	0845	1	8.0												2
COLDWATER	020785	1020	10	12.0			2			2						
VOGHT CR	020785	1045	13	14.0				2								
NICOLA	030785	0750	18	17.0	9	13		8	10				1	8	6	

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N EST CH	CO	RBT	TOTAL CH	CO	RBT	SITE MWF	DV	CATCH LMP	CYP	SU	OTH
GUICHON CR	030785	0920	20	15.0	26		4	22		4				75	4	
GUICHON CR	030785	1030	20	18.0									1	7		
GUICHON CR	030785	1100	20	17.0					1	3				29		
NICOLA	030785	1150	27	18.0	15			12	3	1				13		
SPIUS CR	030785	1300	25	19.0				2		1				1		
NICOLA	030785	1800	24	22.0				3						10	8	
NICOLA	030785	1855	22	20.0	6	15		5	14			1	21			
SPIUS CR	040785	0715	SC1	13.0				1		4				4		
NICOLA	040785	0715	40	19.0	8			5	2	1				7		
NICOLA	040785	0920	38	19.0										2		
NICOLA	040785	1005	36	18.0				4					11			
NICOLA	090785	0945	18	20.0	6		8	6		7				1		
NICOLA	090785	1000	18	20.0	6		25	5	1	25				3	2	
NICOLA	090785	1540	22	22.0	62		34	58		25	1			6		
GUICHON CR	090785	1730	20	20.0	123		28	21		24	2			79	1	
NICOLA	090785	1800	21	19.0			36	5		25				6	2	
NICOLA	110785	0850	27	17.0	11		79	11		68				10	5	
NICOLA	170785	0645	33	16.0	42		65	40	1	29			2	4		
NICOLA	170785	0820	36	17.0	47		8	47		8				1	7	
NICOLA	170785	0915	38	18.0	25			25		5			4	2	1	
NICOLA	170785	1015	40	19.0	8		4	8		4				1	1	
NICOLA	300785	0600	32	11.0						1			12			
NICOLA	300785	0740	34	17.0			121	2		110				3		
NICOLA	300785	0945	40	21.0	34		9	34		9					20	
NICOLA	300785	1050	38	21.0	6			6		1				1	2	
SPIUS CR	300785	1425	25	25.0	3		37	3		36						
NICOLA	300785	1530	27	24.0			90	1		52					4	
NICOLA	300785	1910	22	24.0			19			19					5	
NICOLA	310785	0630	33	17.0	20		40	20		37						
NICOLA	310785	0745	35	17.0	11		13	11		11						
NICOLA	310785	0930	36	21.0	89		61	84		60				5	6	
COLDWATER	310785	1430	1	14.0		3	5	1	3	5		2				7
COLDWATER	310785	1630	10	18.0			24		3	23						

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N EST CH	POP'N EST CO	POP'N EST RBT	TOTAL SITE CATCH CH	TOTAL SITE CATCH CO	TOTAL SITE CATCH RBT	MWF	DV	LMP	CYP	SU	OTH
GUICHON CR	010885	0715	20	12.0	15		140	15		117				1		
NICOLA	010885	0800	21	17.0			3			3				4		
GUICHON CR	010885	0900	20	15.0			6			6						
GUICHON CR	010885	1000	20	16.0			40	2		34						
NICOLA	010885	1110	24	18.0			17			16				8		
NICOLA	010885	1200	18	18.5			20			20				2		
NICOLA	010885	1230	18	18.0												
GUICHON CR	010885	1300	20	16.0			39	2		39						
COLDWATER	130885	0750	8	12.0	27	12	19	27	11	19			1			
COLDWATER	130885	0855	12	14.0		6	25	12	6	24					2	
NICOLA	130885	1105	18	17.0						5			6	1		
GUICHON CR	130885	1255	20	19.0									6			
GUICHON CR	130885	1315	20	18.0				1					7			
NICOLA	130885	1845	22	19.0			34	1		27				5		
NICOLA	140885	0700	33	13.0	25		86	25		81				2		
NICOLA	140885	0840	40	17.0	52		42	47		17				1		
NICOLA	140885	0950	38	17.0	21		7	21		7						
NICOLA	140885	1100	36	18.0	38		14	34		14						
SPIUS CR	140885	1845	25	21.0	3		70	3		27						
NICOLA	150885	0645	24	14.0			27			20				3		
COLDWATER	150885	0840	10	12.0			23	1		20						
COLDWATER	150885	1010	1	10.0	6			4	5	1	4					
NICOLA	260885	1530	21	19.0	19	2	78	18	2	44					4	
GUICHON CR	260885	1545	20	18.0	13			11	1	12						
NICOLA	270885	0800	40	14.0	28		18	28		270				3		
NICOLA	270885	0905	38	15.0	29		7	26		7						
NICOLA	270885	1015	36	16.0	46		27	44		25						
NICOLA	270885	1150	33	18.0	9		51	9		52						
SPIUS CR	270885	1745	25	20.0			30	2	1	29						
NICOLA	270885	1845	27	19.0				1		6						
COLDWATER	280885	0920	12	15.0			23	2	5	9						
COLDWATER	280885	1210	8	16.0	6	5	25	4	5	20						
COLDWATER	280885	1215	1	11.0			10	2	1	8		3				

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N CH	POP'N CO	EST RBT	TOTAL SITE CATCH CH	CO	RBT	MWF	DV	LMP	CYP	SU	OTH
COLDWATER	280885	1410	10	19.0			9	1	1	9						
NICOLA	290885	0715	18	13.0			39			38						
GUICHON CR	290885	0840	20	11.0	132		18	106		12						
NICOLA	290885	0940	22	14.0			72	4		51						
NICOLA	290885	1145	24	16.0			39			33						
NICOLA	100985	0730	34	10.0			59	2		52			1	8		
NICOLA	100985	0800	32	9.0						2						
NICOLA	100985	0930	40	10.0	11		11	6		11						
NICOLA	100985	1005	36	12.0	9		26	9		26			1		1	
NICOLA	100985	1230	22	14.0			23			22			2	11		
GUICHON CR	100985	1300	20	14.0	12		20	10		14						
GUICHON CR	100985	1330	20	13.0	65		3	64		3				3		
GUICHON CR	100985	1500	20	15.0			38	1		34				4		
NICOLA	100985	1600	21	15.0			7	1		7						
NICOLA	100985	1830	24	14.0			10			9	1			3		
NICOLA	110985	0730	38	11.0	20		12	13		11				5	1	
COLDWATER	110985	1215	1	7.0				1	8	8		2				6
COLDWATER	110985	1400	10	11.0			19	1		18						
NICOLA	110985	1800	33	12.0	4		46	4		42				1		
NICOLA	120985	0645	27	9.0			75	1		57				1		
NICOLA	240985	0820	40	9.0	7		22	7		22			1	3	1	
NICOLA	240985	0930	38	10.0	14		21	14		18			1	4	4	
NICOLA	240985	1250	22	12.0			15			11	1		2	2		
NICOLA	240985	1345	34	13.0			38	1		37			6	5	2	
NICOLA	240985	1500	33	12.0			42			42				2		
NICOLA	240985	1540	35	12.0			33	2		33			11	3	1	
NICOLA	250985	0845	36	9.0	23		41	22		40			1	1	1	
NICOLA	250985	1015	27	9.0	9		45	9		41				2	1	
SPIUS CR	250985	1135	25	7.0		7	31	3	7	24				1	1	
NICOLA	250985	1250	21	12.0	4		46	3		28			2	2		
GUICHON CR	250985	1320	20	13.0			64	1		57				2		
GUICHON CR	250985	1400	20	13.0	58			55		6	1			7	5	
COLDWATER	260985	0930	10	7.0			27	2		27						

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N EST CH	CO	RBT	TOTAL CH	CO	RBT	SITE MWF	DV	CATCH LMP	CYP	SU	OTH
COLDWATER	260985	1115	1	7.0		6	8	2	5	8		1				3
NICOLA	081085	0825	40	3.5	10		19	10	2	16				1	1	
NICOLA	081085	0935	38	4.0	10		14	8		12				2	2	
NICOLA	081085	1045	36	4.5	38		37	33		27			2			
NICOLA	081085	1255	33	6.0	6		67	6		63						
NICOLA	081085	1415	27	7.0			36	1		36						
NICOLA	091085	0900	35	5.5	10		25	10		20			1		3	
NICOLA	091085	1025	25	5.0	6	7	22	4	7	22						
NICOLA	091085	1220	22	8.0			12			12						
NICOLA	091085	1315	21	8.0			23			20						
GUICHON CR	091085	1400	20	8.0			38			34						
GUICHON CR	091085	1500	20	8.0							1			1		
NICOLA	101085	1205	24	7.0												
NICOLA	101085	1340	18	8.5										8		
COLDWATER	111085	1000	8	6.5		4	38	1	4	34			1			
COLDWATER	111085	1150	1	4.5						5						2
COLDWATER	111085	1300	10	9.0			16			15						
NICOLA	221085	0930	40	7.0	9		32	8		32						
NICOLA	221085	1030	38	7.0			31	6		30						
NICOLA	221085	1350	36	8.0	3		57	3		54					1	
NICOLA	231085	1000	33	5.0			66	1		64			6	1	1	
NICOLA	231085	1120	35	5.5			15			13						
NICOLA	231085	1300	27	6.0			9			9						
SPIUS CR	231085	1400	25	5.0			34	3		32						
NICOLA	241085	1015	18	5.0			36			35	1					
NICOLA	241085	1140	21	6.0			13	2		10			9			
GUICHON CR	241085	1200	20	7.5			96	1		81						
GUICHON CR	241085	1300	20	7.0				1								
NICOLA	241085	1325	22	7.0	3		12	3		11			16			
NICOLA	241085	1400	24	6.5			8	1		8			1			
COLDWATER	251085	1135	1	1.0	3		4	3		3		1				
COLDWATER	251085	1300	10	3.5			12			12						
COLDWATER	251085	1400	8	5.0	4		33	3		33	1					

RIVER SYSTEM	DATE DAMOYR	TIME PST	STA NO	TEMP	POP'N CH	POP'N CO	EST RBT	TOTAL CH	TOTAL CO	TOTAL RBT	SITE MWF	SITE DV	CATCH LMP	CATCH CYP	CATCH SU	CATCH OTH
NICOLA	041185	1515	24	5.5			5			5	1					
NICOLA	051185	1120	40	4.0	8		17	5		10			3		1	
NICOLA	051185	1240	38	4.0	9		28	8		27			8			
NICOLA	051185	1400	36	3.5			68	7		65			6	1	3	
NICOLA	061185	1040	33	2.0	8		43	8		42			4	6	5	
NICOLA	061185	1200	35	2.5			10	1		10			1			
NICOLA	061185	1325	27	4.0			7			7			2			
NICOLA	061185	1430	25	4.0			80	5		77			1			
COLDWATER	071185	1200	1	2.0	4			4		3		1				15
COLDWATER	071185	1350	10	3.0						4		2			2	
COLDWATER	071185	1450	8	3.0			22	1		22			3	1		1
NICOLA	081185	1050	18	3.0	6		15	6		11			3	26	6	
NICOLA	081185	1215	21	4.0			27	1		21					1	
GUICHON CR	081185	1300	20	4.0			49	2		43						
GUICHON CR	081185	1400	20	4.0				2		2	1				1	
NICOLA	081185	1450	22	3.5	6		34	5		32			22			

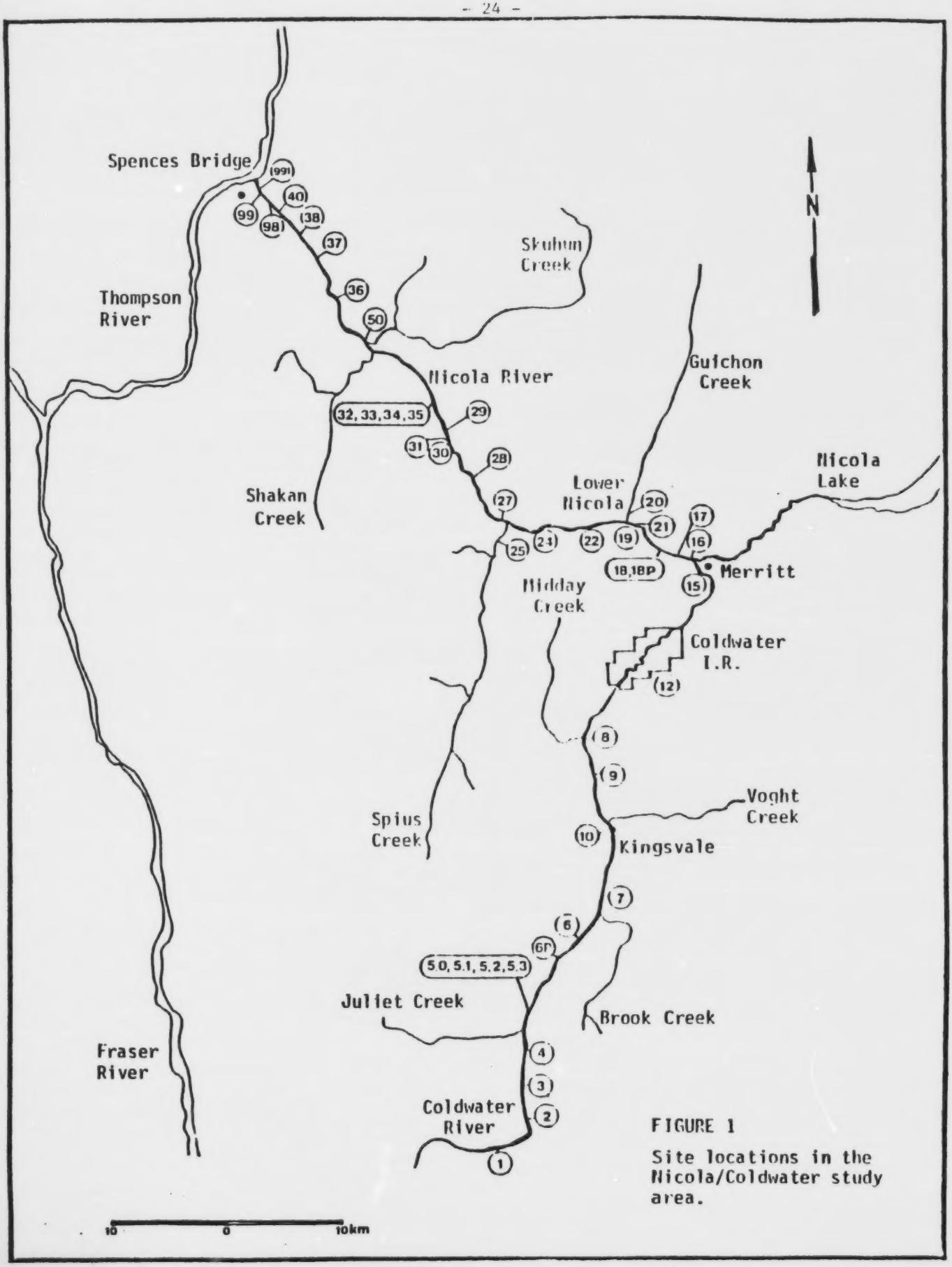

FIGURE 1

Site locations in the Nicola/Coldwater study area.